

Pruning Young Apple Trees

By Jenny Wright

Before the First Five Years

If you are planning to plant new trees, there are many important considerations: trees should be planted in well-drained soil where they will get full sunlight. It is also essential to know how to prepare the ground; plant, water and fertilize, and; protect the tree from bark borers, mice, and deer. Doing these things correctly can mean the difference between a tree that lives and a tree that dies. Once an apple tree is established it is hard to kill, but before it is established it needs extra care and protection.

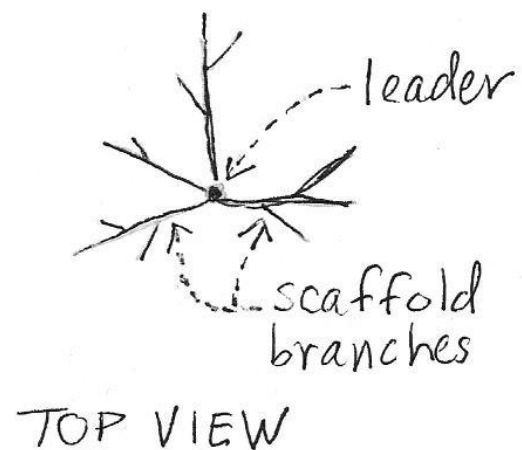
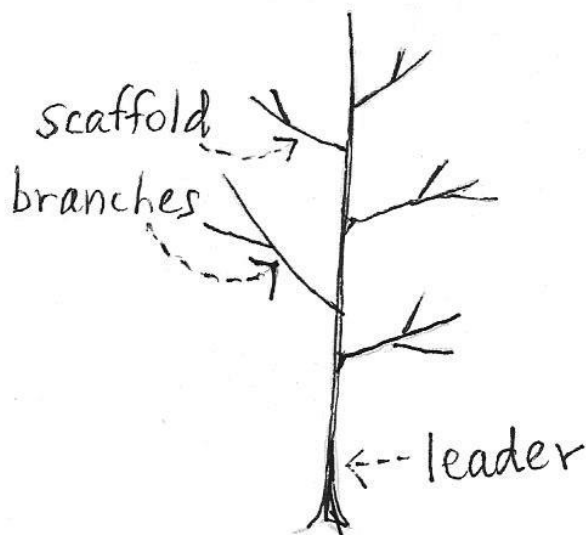
The FEDCO catalog is one good source for all of the above considerations:

FEDCO Trees
PO Box 520
Waterville, ME 04903
(www.fedcoseeds.com, or (207) 873-7333)

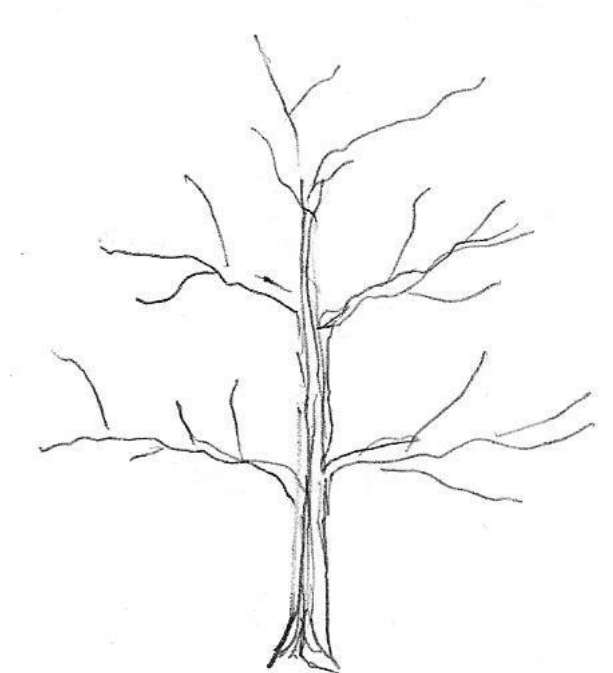
The First Five Years

In general, pruning young trees should only be done in mid to late winter or early spring.

The goal in pruning very young trees is to get them off to a good start with a strong structure. We favor a central leader shape with scaffold branches that have wide crotch angles and start at different levels on the leader.



The central leader shape (in which the upper branches come from the central trunk, not from the lower branches) has many advantages. It has the most potential for fruiting. The lower branches can reach out further than the upper branches. The tree is less susceptible to limbs breaking. The tree can capture the most sunlight and more apples will be reachable from the ground.



Central Leader

Each tree offers a unique arrangement of branches and you have to work with what's there. In young trees, a few snips can change the future shape of the tree, so take care in choosing your cuts. Young trees are often over-pruned. Resist this tendency.

Sometimes it's obvious what to do; sometimes it's a judgment call. There can be more than one acceptable approach, and two pruners, following the same theories with the same ideal shape in mind, won't necessarily make the same choice every time.

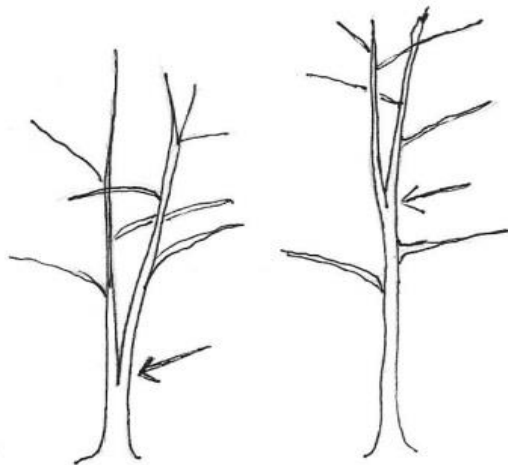
Semi-dwarf trees and standard trees will easily adapt to the central leader shape. Semi-dwarf trees will fruit at a younger age than standard trees and will not grow as big. There are several semi-dwarf rootstocks; m111, m106, m7 are the most common, listed from largest to smallest.

Dwarf trees (grafted onto full dwarf rootstock) will be slow-growing, stay small, and might not adapt to the central leader shape. They won't need as much pruning except to remove weak crotches and any other major design problems. Dwarf trees have weaker root systems and are more likely to need staking. They bear fruit at a younger age, but are less hardy to cold temperatures. And since they are smaller and lower, they should be protected from deer.

Years One and Two



no problem



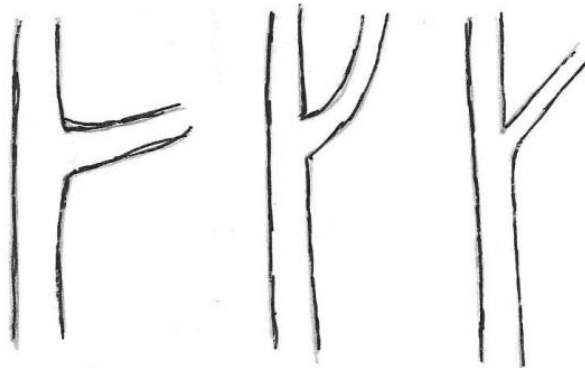
weak, narrow
crotches (arrows)

The most serious problem that demands decisive action in a young tree is a forked or double leader with a very narrow crotch.

If there is a crease line in the narrow fork, this is a very weak place that will likely split apart when the tree gets bigger and is weighted down with apple or snow or ice.

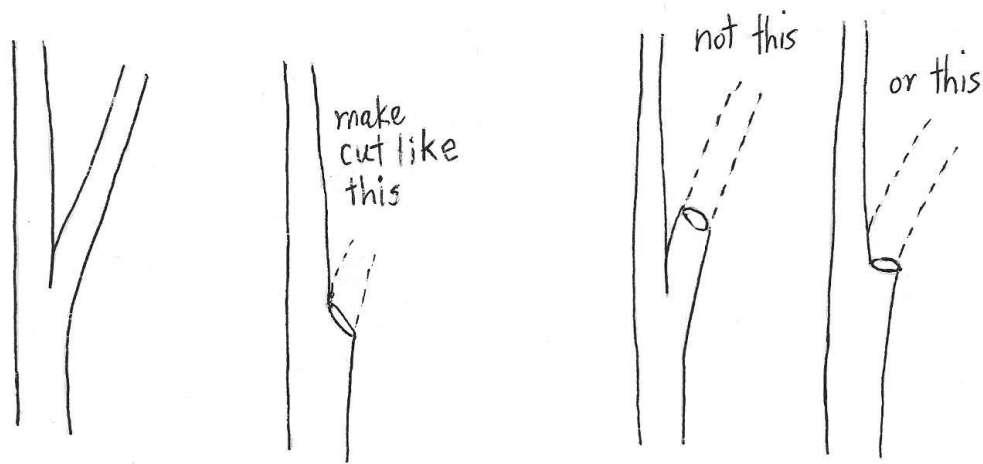


weak, with
bark inclusion
shown by arrow



Strong

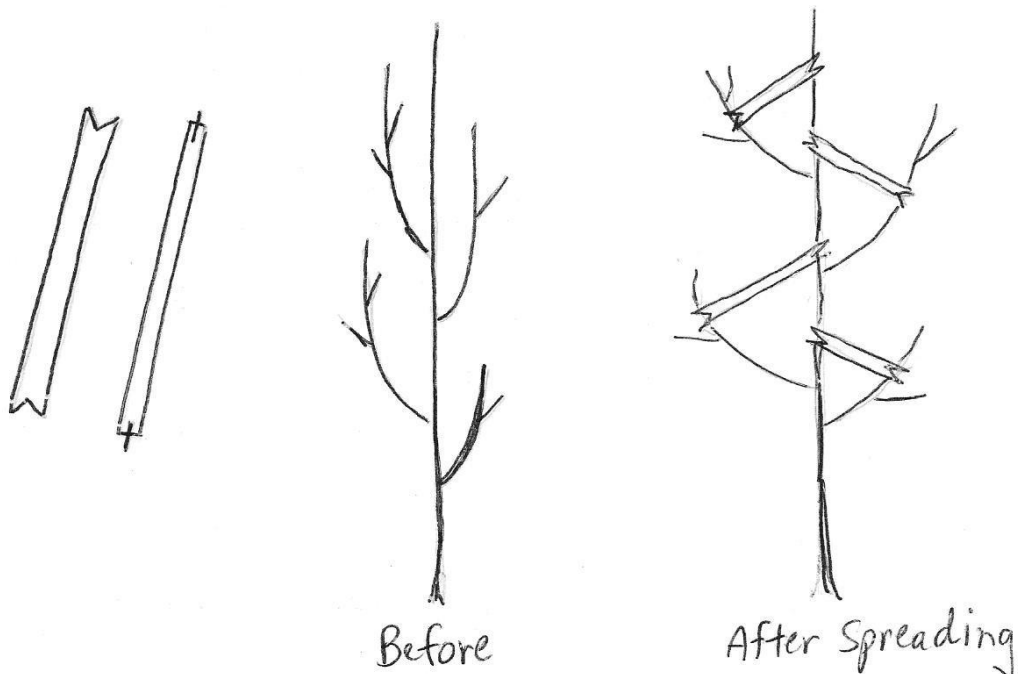
Choose the better side and remove the other. In some cases you could be removing half of the tree, but it's necessary to get a strong tree and to get a central leader.



Any scaffold branch coming off the leader lower than 20" from the ground should be removed.

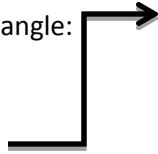
Some books recommend shortening all the scaffold branches "to encourage side branches". In our experience side branches will grow without cutting the scaffold branches. We believe the young tree will grow faster and get well established sooner if you keep pruning to a minimum. The more the tree makes leaves, the more it feeds itself, the sooner it gets bigger. However, if a branch is long, floppy and horizontal or sloping downward, it should be shortened to stiffen it.

Scaffold branches that are very upright, competing with the leader, need to be spread. A spreader can be made by cutting a notch in each end of a wood lath after cutting it to the needed length. Or you can use 1" X 1" pieces of wood with finishing nails inserted into each end, with the nail heads then ground or sharpened. If a side branch has a narrow crotch with bark inclusion, it's usually best to remove it entirely.

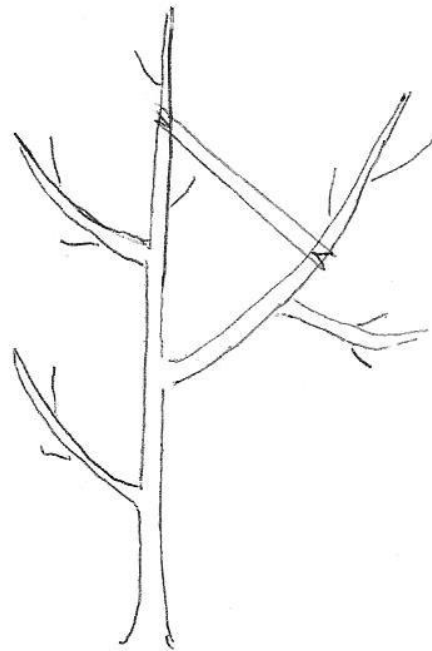
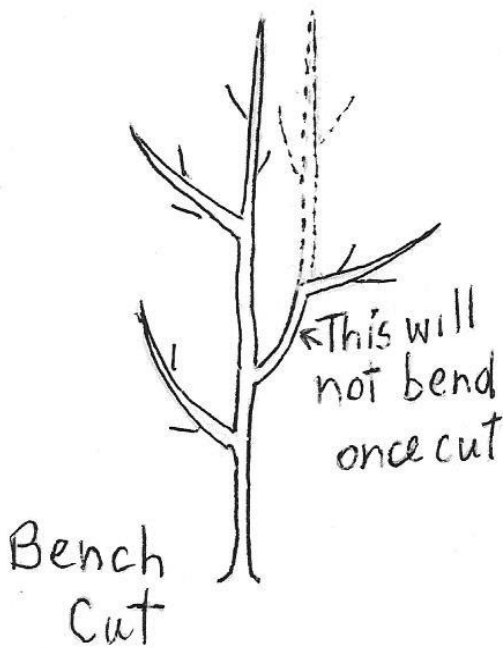


Years Three, Four, and Five

As the tree grows, the scaffold branches send out side branches. Some branches will be quite upright, some will be flat. When given a choice, favor the branches that have this angle:

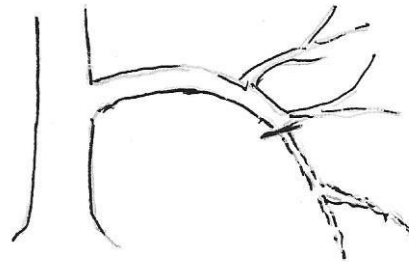
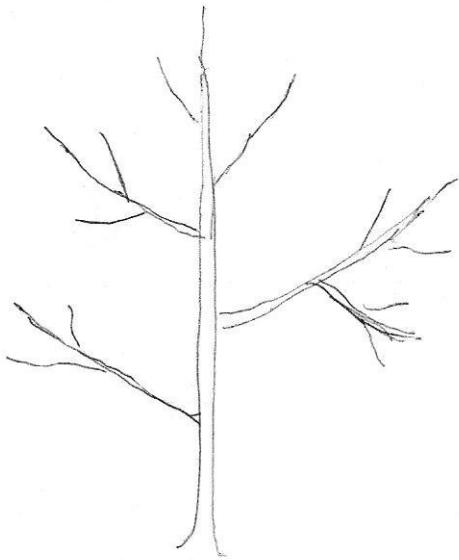


Hopefully spreaders have improved the crotch angles, reducing competition with the leader and with other branches. When the tree fruits, the branches will be permanently bent lower and the spreaders can be removed.

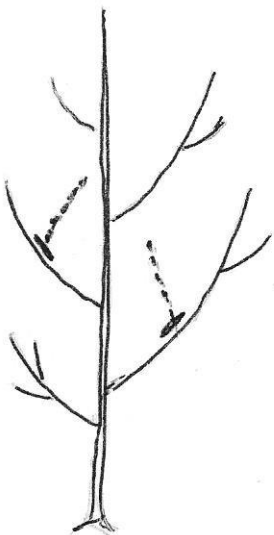


When you cut the end of a branch off, back to a side branch, it is called a "heading cut". Heading cuts tend to stiffen a branch. A "bench cut" is a heading cut made in a vertical competing leader.

So if a spreader can be used it is preferable, because the branch will become less upright as it bears fruit. But sometimes a bench cut is unavoidable.

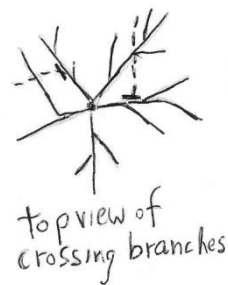
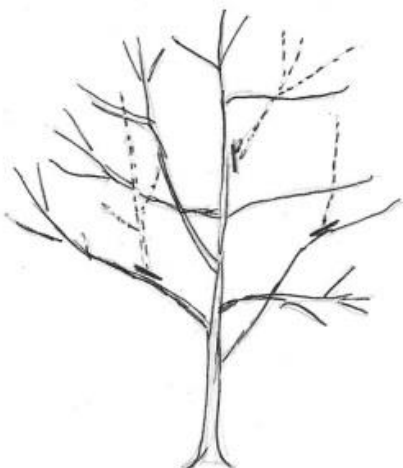


Once trees start bearing there will be branches that are too flat. Heading cuts can stiffen these branches, keeping them from drooping downward. Heading cuts and bench cuts are made back to a side branch.

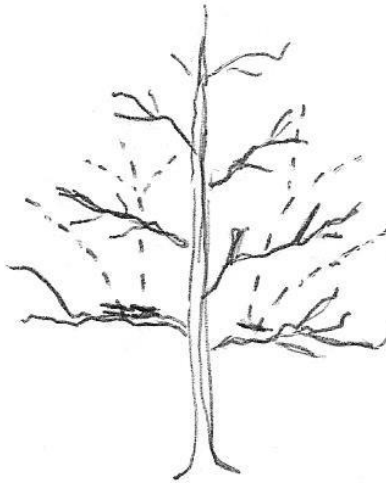


Side branches, growing on scaffold branches but growing back in toward the center of the tree, are usually removed. This kind of cut won't stiffen the scaffold branch.

If you are pruning an older tree (5 to 10 years old) that has never been pruned, it is not too late to remove half of a leader with a weak crotch. There may be a tangle of too many scaffold branches, crossing branches, and parallel branches.



As the young trees grow older, you'll need to remove risers on the lower branches. They start as suckers, and if allowed to stay, they will grow to crowd the scaffold branches on the central leader and shade parts of the lower branches that are reachable from the ground.



Every variety has its own growing habit and some varieties will be droopy regardless of what you do, but the goal for the scaffold branches and general structure of the tree will be the same. Eventually, as trees get older and larger, some otherwise good branches will need to be removed because they become too close.

Good Slogans to Remember

- Remove rubbing or crossing branches
- Remove weak crotches
- Cut to a side branch
- Leave the collar
- Keep lower branches lower (remove risers)
- Keep upper branches upper (fight droop)
- Favor slanting branches (30-40 degrees above horizontal)

6 heirloom varieties recommended for backyard orchards (require little to no spraying):

Golden Delicious (red colored varieties more susceptible to plum curculio)

Russet: Golden and Roxbury

Baldwin (but bears every other year)

Wealthy (an early apple)

Yellow Transparent (an early sauce apple)

Wolf River (a good drying apple)

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